

## AMENDMENTS TO THE CLAIMS

1. (PREVIOUSLY PRESENTED) An apparatus comprising:

a first circuit configured to acquire a current picture,  
a first reference picture and a second reference picture;

5 a second circuit configured to generate a measurement of  
inter-picture motion between said current picture and said first  
reference picture by performing a global motion estimation process  
on said current picture and said first reference picture;

10 a third circuit configured to generate a control signal  
in response to (i) said measurement of inter-picture motion between  
said current picture and said first reference picture and (ii) a  
predetermined threshold value;

15 a fourth circuit configured to select either said first  
reference picture or said second reference picture as a better  
reference picture for subsequent motion estimation and motion  
compensation on said current picture in response to said control  
signal; and

20 a motion estimation circuit configured to generate one or  
more motion vectors in response to said better reference picture  
and said current picture, wherein said current picture is encoded  
based upon said one or more motion vectors.

2. (ORIGINAL) The apparatus according to claim 1,  
wherein:

a parity of said first reference picture is opposite to  
a parity of said current picture; and

5 a parity of said second reference picture is the same as  
said parity of said current picture.

3. (ORIGINAL) The apparatus according to claim 1,  
wherein:

a parity of said first reference picture is the same as  
a parity of said current picture; and

5 a parity of said second reference picture is opposite to  
said parity of said current picture.

4. (ORIGINAL) The apparatus according to claim 1,  
further comprising:

a memory configured to store said current picture, said  
first reference picture and said second reference picture.

5. (PREVIOUSLY PRESENTED) The apparatus according to  
claim 1, wherein said fourth circuit further comprises:

a multiplexer circuit configured to select (i) said first  
reference picture for presentation as said better reference picture  
5 in response to a first state of said control signal and (ii) said

second reference picture for presentation as said better reference picture in response to a second state of said control signal.

6. (CANCELED).

7. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, wherein said second circuit further comprises:

5 a low-complexity motion estimation circuit configured to generate a plurality of coarse motion vectors for said current picture based upon a low-resolution inter-picture motion search of said first reference picture.

8. (PREVIOUSLY PRESENTED) The apparatus according to claim 7, wherein said second circuit further comprises:

5 a first analysis circuit configured to determine a dominant global motion component based upon said coarse motion vectors and generate said measurement of inter-picture motion in response to said dominant global motion component.

9. (PREVIOUSLY PRESENTED) The apparatus according to claim 8, wherein said second circuit further comprises:

a second analysis circuit configured to generate said control signal based upon a fraction of said coarse motion vectors

5 contained in a cluster associated with said dominant global motion component and said predetermined threshold value.

10. (ORIGINAL) The apparatus according to claim 8, wherein:

said first analysis circuit is configured to perform a cluster analysis on said coarse motion vectors.

11. (ORIGINAL) The apparatus according to claim 1, wherein said apparatus is part of an encoder circuit.

12. (PREVIOUSLY PRESENTED) An apparatus comprising:

means for acquiring a current picture, a first reference picture and a second reference picture;

5 means for generating a measurement of inter-picture motion between said current picture and said first reference picture by performing a global motion estimation process on said current picture and said first reference picture;

10 means for generating a control signal in response to (i) said measurement of inter-picture motion between said current picture and said first reference picture and (ii) a predetermined threshold value;

means for selecting either said first reference picture or said second reference picture as a better reference picture for

subsequent motion estimation and motion compensation on said  
15 current picture in response to said control signal; and

means for generating one or more motion vectors in  
response to said better reference picture and said current picture,  
wherein said current picture is encoded based upon said one or more  
motion vectors.

13. (CURRENTLY AMENDED) A method for performing motion  
estimation, ~~in a video encoder~~ comprising the steps of:

acquiring a current picture, a first reference picture  
and a second reference picture using a video encoder;

5 generating a measurement of inter-picture motion between  
said current picture and said first reference picture by performing  
a global motion estimation process on said current picture and said  
first reference picture;

generating a control signal in response to (i) said  
10 measurement of inter-picture motion between said current picture  
and said first reference picture and (ii) a predetermined threshold  
value, wherein said video encoder selects, ~~selecting~~ either said  
first reference picture or said second reference picture as a  
better reference picture for subsequent motion estimation and  
15 motion compensation on said current picture in response to said  
control signal; and

generating one or more motion vectors in response to said better reference picture and said current picture, wherein said current picture is encoded based upon said one or more motion  
20 vectors.

14. (ORIGINAL) The method according to claim 13, wherein:

a parity of said first reference picture is opposite to a parity of said current picture; and

5 a parity of said second reference picture is the same as said parity of said current picture.

15. (ORIGINAL) The method according to claim 13, wherein:

a parity of said first reference picture is the same as a parity of said current picture; and

5 a parity of said second reference picture is opposite to said parity of said current picture.

16. (ORIGINAL) The method according to claim 13, further comprising the step of:

storing said current picture, said first reference picture and said second reference picture in a picture memory.

17. (CANCELED).

18. (PREVIOUSLY PRESENTED) The method according to claim 13, further comprising the step of:

generating a plurality of coarse motion vectors for said current picture based upon a low-resolution inter-picture motion search of said first reference picture.

19. (PREVIOUSLY PRESENTED) The method according to claim 18, further comprising the steps of:

determining a dominant global motion component based upon said coarse motion vectors; and

generating said measurement of inter-picture motion in response to said dominant global motion component.

20. (PREVIOUSLY PRESENTED) The method according to claim 19, further comprising the step of:

generating said control signal having (i) a first state in response to said measurement of inter-picture motion exceeding said predetermined threshold value and (ii) a second state in response to said measurement of inter-picture motion not exceeding said predetermined threshold value.

21. (ORIGINAL) The method according to claim 19, further comprising:

performing a cluster analysis on said coarse motion vectors.

22. (ORIGINAL) The method according to claim 13, wherein said current picture, said first reference picture and said second reference picture each comprise a field picture.

23. (PREVIOUSLY PRESENTED) The method according to claim 13, wherein said predetermined threshold value is programmable.

24. (PREVIOUSLY PRESENTED) The apparatus according to claim 1, wherein said first reference picture comprises a temporally closest reference picture to said current picture.

25. (PREVIOUSLY PRESENTED) The method according to claim 19, further comprising the step of:

generating said control signal based upon a fraction of said coarse motion vectors contained in a cluster associated with said dominant global motion component and said predetermined threshold value.